REMARKS

Claims 1-25 are pending in the present patent application. Claims 1-25 stand rejected. This application continues to include claims 1-25.

The Examiner has noted that Applicants filed an Information Disclosure Statement (IDS) on July 20, 2001, but that "no paper was found," and has requested that the Applicants resubmit the IDS, marked "Copy." Applicants have submited herewith a copy of the referenced IDS, including the reference document identified in the IDS, marked accordingly.

Claim 1 was rejected under 35 U.S.C. 102(b) as being anticipated by Cheshire, S., Current Meeting Report, Cheshire, et al., 03/99. Applicants respectfully request reconsideration in view of the following.

Cheshire, et al. is directed to home networks (page 1). Cheshire, et al. discloses, as meeting minutes pertaining to automatic IP address assignment for link local address with IPv4 (page 1), a basic overview of the operation of an IPv4 address self configuration as currently implemented in the Apple MAC operating system OS 8.5 (pages 2-3). The IPv4 operation includes picking a random address, sending an ARP probe to verify that the address is not already in use, and if the address is in use, iterating the picking and repeating steps 10 times at most, otherwise configuring the interface with the IP address (page 3).

Applicants believe that claim 1 patentably defines Applicants' invention over Cheshire, et al., for at least the reasons set forth below.

Claim 1 is directed to a method of automatically assigning an internet protocol address to a device. Claim 1 recites, providing a network; providing <u>a computer communicatively coupled to said network</u>; providing <u>a network adapter to communicatively couple said device to said network</u>; *said computer* performing the steps of: generating an internet protocol

address; incorporating said internet protocol address in an address resolution protocol probe; sending said address resolution protocol probe on said network; and determining whether a response to said address resolution protocol probe indicates that said internet protocol address is in use; wherein if said internet protocol address is not in use, then performing the step of assigning said internet protocol address to said network adapter. (Emphasis Added).

Thus, Applicants' invention as recited in claim 1 utilizes a network connected computer to obtain an IP address for another network connected device, i.e., the computer performs the IP address assignment task for the device by assigning an IP address to the network adapter utilized by the device. In contrast, in the reference, the current meeting report, Cheshire, et al., it is stated that "Stuart Cheshire presented a basic overview of IPv4 address self configuration . . . (emphasis added)." In the self configuration process, Cheshire, et al. discloses picking a random address, sending an ARP probe to verify that the address is not already in use, and if the IP address is not in use, configuring the interface with the IP address (see pages 2-3). Cheshire, et al. does not disclose, teach, or suggest that the interface communicatively couples a device separate from the computer and that the computer obtains an IP address for the network adaptor to permit network communication by the device.

Unlike the disclosure of Cheshire, et al., the invention of claim 1 is directed to a computer that is communicatively coupled to a network, and a network adapter that communicatively couples a device to a network that is distinct from the network connected computer, wherein the computer generates and assigns an internet protocol address to the network adapter (which is distinct from the network connected computer), thus providing an internet protocol address for use by the device via the network adapter. This permits, for example, and without intent to limit Applicants' claimed invention, a reduction in the network

adapter hardware and firmware requirements, and thus cost savings (reference Applicants' specification at page 2, lines 25-26), allowing the use of a low cost network adapter that does not contain a mechanism for self assignment of an IP address (reference Applicants' specification at page 4, lines 22-23).

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that Cheshire, et al. does not disclose, teach, or suggest the subject matter of claim 1, and thus respectfully request that the rejection of claim 1 under 35 U.S.C. 102(b) be withdrawn.

Claims 2-6 were rejected under 35 U.S.C. 103(a) as being unpatentable over Cheshire, et al. in view of Reed, et al., U.S. Patent No. 6,061,739. Applicants respectfully request reconsideration of the rejection of claims 2-6 in view of the following.

Reed, et al. is directed to assign a network address using a physical address resolution protocol (col. 1, lines 10-11). In describing related art, Reed, et al. discloses an example of an address resolution protocol (ARP), wherein a first host broadcasts a packet onto an Ethernet LAN requesting a hardware address associated with an IP address, which is received by every system on the LAN (col. 2, lines 18-25). When a second host at Ethernet address E2 identifies the IP address as its own, it responds to the broadcast with its Ethernet address E2, by which the first host learns that the requested IP address is associated with the second host having Ethernet address E2 (col. 2, lines 25-29).

Reed, et al. discloses a method for assigning a network address to a new device coupled to a network without any additional infrastructure or pre-existing knowledge of the hardware address of the device (col. 4, lines 19-22). After the device is attached to the network, the device attempts to establish a connection on the network, which causes address resolution protocol (ARP) requests to be generated (col. 4, lines 22-25). The device monitors

2001-0158.02/LII0338.US

4

the communications on the network for unanswered ARP requests (col. 4, lines 25-27). When the device sees N unanswered ARP requests (where N is a preset threshold) in a given length of time, the device adopts the requested network address and responds to the ARP with its hardware address (col. 4, lines 27-30, Fig. 2).

Claims 2-6 are believed allowable due to their dependence, directly or indirectly, on otherwise allowable base claim 1.

Further, Applicants believe that claims 2-6 further patentably define Applicants' invention over the cited references, Cheshire, et al. in view of Reed, et al., taken alone or in combination, for at least the reasons set forth below.

The Examiner asserts that the motivation for combining the references of Cheshire, et al. and Reed, et al. would be "to program the number of request issues and the time to wait for a response *based on network environment factors such as network latency and its dependency on network traffic, distance and the characteristic of the communication links*" (emphasis added). However, neither Cheshire, et al. nor Reed, et al., taken alone or in combination, disclose, teach, or suggest a motivation *based on network environment factors such as network latency and its dependency on network traffic, distance and the characteristic of the communication links*, as asserted by the Examiner. Accordingly, it would not have been obvious to combine the references of Cheshire, et al. and Reed, et al. to yield Applicants inventions of claims 2-6.

Notwithstanding the above, even if Cheshire, et al. and Reed, et al. were combined, the combination of Cheshire, et al. and Reed, et al. <u>does not</u> yield Applicants' invention of claims 2-6, which incorporate by reference the subject matter of claim 1. For example, as set forth above, the invention of claim 1 is directed to a method wherein the computer generates and

assigns an internet protocol address to a network adapter that is distinct from the computer, thus providing an internet protocol address for use by a device that is distinct from the computer, whereas Cheshire, et al. merely discloses self configuration of an interface with an IP address.

In addition, Reed, et al. also is directed to self assignment of an IP address. For example, Reed et al, discloses that when the device sees N unanswered ARP requests (where N is a preset threshold) in a given length of time, the device adopts the requested network address and responds to the ARP with its hardware address (col. 4, lines 27-30, Fig. 2). Accordingly, neither Cheshire, et al. nor Reed, et al., taken alone or in combination, disclose, teach, or suggest the invention of claim 1, from which claims 2-6 depend.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that the cited references, Cheshire, et al. in view of Reed, et al., taken alone or in combination, do not disclose, teach, or suggest the subject matter of claims 2-6, depending from claim 1, and thus respectfully request that the rejection of claims 2-6 under 35 U.S.C. 103(a) be withdrawn.

Claim 7 was rejected under 35 U.S.C. 103(a) as being unpatentable over Cheshire, et al. in view of Reed, et al., and in further view of Mellquist (U.S. Patent 6,115,545). Applicants respectfully request reconsideration in view of the following.

Mellquist is directed to automated internet protocol (IP) address allocation and assignment for the internet protocol (col. 1, lines 7-9). As background, Mellquist discloses that in order to define an IP address, a free address in the range of valid addresses must be selected (col. 3, lines 12-14). Addresses are usually administered by a person who allocates these addresses to entities who require them (col. 3, lines 14-15). It is important that duplicate

2001-0158.02/LII0338.US

addresses are not allowed since this can cause major trouble (col. 3, lines 16-17). Also, a sub-net mask is required for proper operation, and must be the same on all entities across the sub-net (col. 3, lines 17-19).

Applicants believe that claim 7 patentably defines Applicants' invention over the cited references, Cheshire, et al. in view of Reed, et al., and in further view of Mellquist, taken alone or in combination, for at least the reasons set forth below. In addition, claim 7 is believed allowable due to its dependence on otherwise allowable base claim 1.

Claim 7 is directed to the method of claim 1. Claim 1 recites, among other things, determining if said network adapter has a valid internet protocol address. The Examiner concedes that Cheshire, et al. and Reed, et al. do not teach determining if the network adapter has a valid internet protocol address. However, the Examiner asserts that Mellquist discloses, at column 3, lines 11-19, determining if the network adapter has a valid internet protocol address. Applicants respectfully disagree with the Examiner's assertion, for the reasons that follow.

In contrast to determining if the network adapter has a valid internet protocol address, as recited in claim 7, the relied-upon language of Mellquist merely discloses that a required free address in the range of valid addresses must be selected (col. 3, lines 12-14), and that addresses are usually administered by a person who allocates these addresses to entities who require them (col. 3, lines 14-15). However, statements to the effect that an address must be valid, and that addresses are administered by a person who allocates these addresses to entities who require them, does not disclose, teach, or suggest determining if an IP address is valid, let alone determining if the network adapter has a valid internet protocol address, as recited in claim 7.

2001-0158.02/LII0338.US

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that the cited references, Cheshire, et al. in view of Reed, et al., and in further view of Mellquist, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 7, depending from claim 1, and thus respectfully request that the rejection of claim 7 under 35 U.S.C. 103(a) be withdrawn.

Claims 8-25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, Request for Comments: 2563, May 1999, Troll R. Applicants respectfully disagree with the stated grounds for the rejection of each of claims 8-25, and request reconsideration of the rejection of claims 8-25 in view of the following.

Applicants respectfully submit that the combination of four (4) references, Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, as asserted by the Examiner, is tantamount to using the Applicants' disclosure as a blueprint for impermissible hindsight reconstruction of Applicants' invention. Accordingly, the asserted combination would not have been obvious to a person having ordinary skill in the art at the time Applicants' invention was made.

Notwithstanding the above, Troll is directed to a DHCP (Dynamic Host Configuration Protocol) option to disable stateless auto-configuration in IPv4 clients (page 1). Troll discloses a method by which DHCP clients will be able to determine whether or not the network is being centrally administrated, allowing it to intelligently determine whether or not it should assign itself a "link-local" address (Page 2). Troll also discloses an auto-configure option that, along with an IP address assignment, will allow a DHCP client to determine whether or not it should generate a link-local IP address (page 3). A DHCP client is an

2001-0158.02/LII0338.US

Internet host using DHCP to obtain configuration parameters such as a network address (page 3).

Applicants believe that, even if the four cited references are somehow combined (although Applicants maintain that such a combination is improper), claims 8-25 patentably define Applicants' invention over the cited references, Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, taken alone or in combination, for at least the reasons set forth below.

Claim 8 is directed to the method of claim 7, wherein prior to performing said generating step said method comprising the step of determining whether said network allows said computer to assign an internet protocol address to said network adapter. The Examiner concedes that Cheshire, et al. in view of Reed, et al., and in further view of Mellquist, do not disclose the subject matter of claim 8. In addition, Troll does not disclose, teach, or suggest determining whether said network allows said computer to assign an internet protocol address to said network adapter. Rather, Troll is directed to allowing a DHCP client to determine whether it should assign itself an address (page 2) using an auto-configure option (page 3).

In rejecting claim 8, the Examiner asserts that, "Troll teaches a client node configured to be able to determine . . . whether or not it should assign itself an IP address." (Emphasis Added). Applicants respectfully submit that such a teaching pertains to self-assignment of an IP address, that is, wherein the device itself initiates action to obtain an IP address for itself, e.g., by sending a request. In addition, as discussed above, each of Cheshire, et al. and Reed, et al. is directed to self-assignment of an IP address. Further, Mellquist is directed to self-assignment.

However, Applicants' invention <u>is not</u> directed to self-assignment, but rather, as set forth above with respect to claims 1 and 7, for example, is directed to a method wherein the computer generates and assigns an internet protocol address to a network adapter that is distinct from the computer, thus providing an internet protocol address for use by a device that is distinct from the computer.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that the cited references, Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, taken alone or in combination, <u>do not</u> disclose, teach, or suggest the subject matter of claim 8. In addition, claim 8 is believed allowable due to its dependence on otherwise allowable base claim 1, and/or due to its dependence on otherwise allowable intervening claim 7. Applicants thus respectfully request that the rejection of claim 8 under 35 U.S.C. 103(a) be withdrawn.

Claims 9-10, are believed allowable due to their dependence, directly or indirectly, on otherwise allowable base claim 1. In addition, claims 9-10 further and patentably define the invention over the cited references, Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, taken alone or in combination.

For example, claim 10 is directed to the method of claim 1, wherein said network adapter is a low-cost network adapter. The Examiner asserts that Cheshire, et al. discloses a low-cost network adapter at page 3. Applicants have reviewed the Cheshire, et al. disclosure, and respectfully disagree that Cheshire, et al. discloses, teaches, or suggests a low-cost network adapter. In contrast to a <u>low-cost</u> network adapter, Cheshire, et al. merely discloses an interface (page 3). In addition, neither Reed, et al., Mellquist, nor Troll, taken alone or in combination, disclose, teach, or suggest a low-cost network adapter. For example, Reed, et al.

2001-0158.02/LII0338.US

10

merely discloses that client 28 is a new device connected to the LAN 18 and must be configured with an IP address once it is connected to the Ethernet hub 26, but <u>does not</u> disclose, teach, or suggest that client 28 is connected to LAN 18 using a low-cost network adapter.

Similarly, Mellquist discloses a network device 33 connected to a network 32 (col. 4, lines 37-38), but does not disclose, teach, or suggest that network device 33 is connected to network 32 using a low-cost network adapter. Troll discloses ad-hoc networks with DHCP servers and DHCP clients, but does not disclose, teach, or suggest connection via a low-cost network adapter. Accordingly, claim 10 is believed allowable in its present form.

Accordingly, for at least the reasons set forth above, Applicants believe that claims 9-10 are in condition for allowance in their present form, and thus respectfully request that the rejection of claims 9-10 under 35 U.S.C. 103(a) be withdrawn.

Claim 11 is directed to a method of automatically assigning an internet protocol address to a device, comprising the steps of:

> providing a network;
> providing a computer communicatively coupled to said network;
> providing a low-cost network adapter to communicatively couple said device to said network;
> said computer performing the steps of:
>> broadcasting a discovery packet on said network;
>> receiving a response from said low-cost network adapter;
> determining if said low-cost network adapter has a valid internet protocol address;
> wherein if said low-cost network adapter does not have a valid internet protocol address, then said computer performing the steps of:
> generating an internet protocol address;
> incorporating said internet protocol address in an address resolution protocol probe;
> sending said address resolution protocol probe on said network; and
> determining whether a response to said address resolution protocol probe indicates that said internet protocol address is in use;

wherein if said internet protocol address is not in use, then performing the step of assigning said internet protocol address to said low-cost network adapter.

For substantially the same reasons as set forth above with respect to claims 1, 7 and 10, the cited references, Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, do not disclose, teach, or suggest the subject matter of the claim 11.

For example, Applicants' invention of claim 11, is not directed to self-assignment, but rather, as set forth above with respect to claim 1, the present invention is directed to a method wherein the computer generates and assigns an internet protocol address to a network adapter that is distinct from the computer, thus providing an internet protocol address for use by a device that is distinct from the computer. In contrast, Cheshire, et al. discloses self-assignment of an IP address (page 2). In addition, Reed, et al. is directed to self-assignment of an IP address. Further, Mellquist and Troll are both directed to self-assignment.

Additionally, the cited references, taken alone or in combination, do not disclose, teach, or suggest a low-cost network adapter.

Furthermore, for substantially the same reasons as set forth above with respect to claim 7, the combination of Cheshire, et al. in view of Reed, et al., and in further view of Mellquist, does not disclose, teach, or suggest determining if the low-cost network adapter has a valid internet protocol address, as recited in claim 11. In addition, Troll does not disclose, teach, or suggest determining if the low-cost network adapter has a valid internet protocol address. Rather, Troll is directed to allowing a DHCP client to determine whether it should assign itself an address (page 2).

2001-0158.02/LII0338.US

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that the cited references, Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 11. Accordingly, Applicants respectfully request that the rejection of claim 11 under 35 U.S.C. 103(a) be withdrawn.

Claims 12-16, are believed allowable due to their dependence, directly or indirectly, on otherwise allowable base claim 11. In addition, claims 12-16 further and patentably define the invention over the cited references, Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, taken alone or in combination.

Accordingly, for at least the reasons set forth above, Applicants believe that claims 11-16 are in condition for allowance in their present form, and thus respectfully request that the rejection of claims 11-16 under 35 U.S.C. 103(a) be withdrawn.

Claim 17 is directed to a network based imaging system. Claim 17 recites, among other things, a computer communicatively coupled to said network; an imaging device; and a network adapter communicatively coupling said imaging device to said network; wherein said computer executes instructions which generate an internet protocol address, incorporate said internet protocol address into an address resolution protocol probe, send said address resolution protocol probe on said network, utilize a response to said address resolution protocol probe to determine if said internet protocol address is in use and if said internet protocol address is not in use, then assign said internet protocol address to said network adapter.

For substantially the same reasons as set forth above with respect to claims 1 and 11, Applicants respectfully submit that the cited references, Cheshire, et al. in view of Reed, et al.,

2001-0158.02/LII0338.US

13

in further view of Mellquist, and in further view of Troll, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 17.

For example, Applicants' invention of claim 17, is not directed to self-assignment, but rather, as set forth above with respect to claim 1, the present invention is directed to a method wherein the computer generates and assigns an internet protocol address to a network adapter that is distinct from the computer, thus providing an internet protocol address for use by a device that is distinct from the computer, whereas Cheshire, et al., Reed, et al., Mellquist, and Troll are directed to self-assignment.

Accordingly, claim 17 is believed allowable in its present form.

Claims 18-25 are believed allowable due to their dependence, directly or indirectly, on otherwise allowable base claim 17. In addition, claims 18-25 further and patentably define the invention over the cited references, Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, taken alone or in combination.

For example, Claim 23 is directed to the system of claim 17. Claim 23 recites, among other things, wherein said computer executes preliminary instructions which determine if said network adapter has a valid internet protocol address. For substantially the same reasons as set forth above with respect to claim 7, Applicants respectfully submit that Cheshire, et al. in view of Reed, et al., in further view of Mellquist, taken alone or in combination, do not disclose, teach, or suggest wherein the computer executes preliminary instructions which determine if the network adapter has a valid internet protocol address, as recited in claim 23. In addition, Troll does not disclose, teach, or suggest wherein the computer executes preliminary instructions which determine if the network adapter has a valid internet protocol

address. Rather, Troll is directed to allowing a DHCP client to determine whether it should assign itself an address (page 2) using an auto-configure option (page 3).

Accordingly, claim 23 is believed allowable in its own right.

Claim 24 is directed to the system of claim 23, wherein said preliminary instructions further determine whether said network allows said computer to assign an internet protocol address to said network adapter. The Examiner concedes that Cheshire, et al. in view of Reed, et al., and in further view of Mellquist, do not disclose the subject matter of claim 24. In addition, Troll does not disclose, teach, or suggest wherein said preliminary instructions further determine whether said network allows said computer to assign an internet protocol address to said network adapter. Rather, Troll is directed to allowing a DHCP client to determine whether it should assign itself an address (page 2) using an auto-configure option (page 3). Accordingly, Applicants respectfully submit that the cited references, Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 24. Claim 24 is thus believed allowable in its own right.

Claim 25 is directed to the system of claim 17, wherein said network adapter is a low-cost network adapter. For substantially the same reasons as set forth above with respect to claims 10 and 11, Applicants respectfully submit that the cited references, Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 25. Claim 25 is thus believed allowable in its own right.

Accordingly, for at least the reasons set forth above, Applicants believe that claims 8-25 are in condition for allowance in their present form, and thus respectfully request that the rejection of claims 8-25 under 35 U.S.C. 103(a) be withdrawn.

For the foregoing reasons, Applicants submit that no combination of the cited references teaches, discloses or suggests the subject matter of the pending claims. The pending claims are therefore in condition for allowance, and Applicants respectfully request withdrawal of all rejections and allowance of the claims.

In the event Applicants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition therefor and authorize that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (317) 894-0801.

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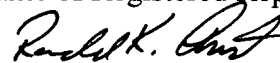Telephone: 317-894-0801
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2001-0158.02/LII0338.US

17